

Docket No. VAS-5041CIP2

Claim 1-102 (Canceled)

103. (New) An implantable drug eluting device that has a compressed undeployed diameter and an expanded deployed diameter, the device comprising:

a radially expandable stent comprising a generally cylindrical wall surface and having a hollow bore extending longitudinally therethrough, wherein the generally cylindrical wall surface comprises a plurality of lateral openings in the wall surface;

a coating comprising a polymer and a therapeutic substance disposed on the wall surface of the stent; and

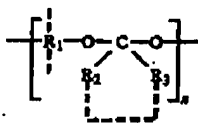
a tubular outer layer comprising expanded, sintered PTFE tape wound about the outer surface of said stent.

104. (New) The device of claim 103, wherein the polymer is a bioerodible polymer.

105. (New) The device of claim 104, wherein the bioerodible polymer has an erosion rate of about 2 microns per hour in an aqueous biological environment with a pH between 6-8.

106. (New) The device of claim 103, wherein the therapeutic substance is paclitaxel or an analog thereof.

107. (New) The device of claim 103, wherein said polymer comprises a compound having the formula:



wherein R₁ is a member selected from the group of divalent, trivalent and tetravalent radicals consisting of alkylene of 1 to 10 carbons; alkenylene of 2 to 10 carbons; alkyleneoxy of

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2 to 6 carbons; cycloalkylene of 3 to 7 carbons; cycloalkylene of 3 to 7 carbons substituted with an alkyl of 1 to 7 carbons, alkoxy of 1 to 7 carbons, an alkylene of 1 to 10 carbons, and an alkenyl of 2 to 7 carbons; cycloalkenylene of 4 to 7 carbons cycloalkenylene of 4 to 7 carbons substituted with an alkyl of 1 to 7 carbons, an alkoxy of 1 to 7 carbons, an alkylene of 1 to 10 carbons, and an alkenyl of 2 to 7 carbons; arylene; and arylene substituted with an alkyl of 1 to 7 carbons, an alkoxy of 1 to 7 carbons, and an alkenyl of 2 to 7 carbons; R_2 and R_3 are selected from the group consisting of alkyl of 1 to 7 carbons; alkenyl of 2 to 7 carbons; alkoxy of 1 to 7 carbons; alkenyloxy of 2 to 7 carbons; alkylene of 2 to 6 carbons; alkenylene of 3 to 6 carbons; alkyleneoxy of 2 to 6 carbons; alkenyleneoxy of 3 to 6 carbons; aryloxy; aralkyleneoxy of 8 to 12 carbons; aralkenyleneoxy of 8 to 12 carbons; oxa; OR_1O with R_1 as defined above; a heterocyclic ring of 5 to 8 carbon and oxygen atoms formed when R_2 and R_3 are taken together; a heterocyclic ring of 5 to 8 carbon and oxygen atoms substituted with an alkyl of 1 to 7 carbons, an alkoxy of 1 to 7 carbons and alkenyl of 2 to 7 carbons formed when R_2 and R_3 are taken together; a fused polycyclic ring of 8 to 12 carbon and oxygen atoms formed when R_2 and R_3 are taken together; a fused polycyclic ring of 8 to 12 carbon and oxygen atoms substituted with an alkyl of 1 to 7 carbons; an alkoxy of 1 to 7 carbons and an alkenyl of 2 to 7 carbons; and wherein at least one of said R_2 and R_3 is a member selected from the group consisting of alkoxy, alkenyloxy and OR_1O ; R_2 and R_3 when taken together are a member selected from the group of heterocyclic and fused polycyclic rings having at least one oxygen atom in the ring; and wherein n is greater than 10.

108. (New) The device of claim 103, wherein the longitudinal length of said stent remains substantially constant when the stent is expanded from the undeployed diameter to the deployed diameter.

109. (New) The device of claim 103, wherein the stent comprises a plurality of undulating elements that comprise a spiral.

110. (New) The device of claim 109, wherein the adjacent turns of the spiral are connected to each other by at least one linear connector.

111. (New) The device of claim 108, wherein the undulating elements are zigzag elements.

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112. (New) The device of claim 108, wherein the undulating elements are sinusoidal elements.

113. (New) The device of claim 103, wherein the tape has a thickness of less than about 0.015 inches (0.038 cm).

114. (New) The device of claim 113, wherein said tape is wound around the stent in 1 to 10 overlapping layers.

115. (New) The device of claim 103, wherein the stent comprises a self-expanding stent.

116. (New) The device of claim 115, wherein the self-expanding stent comprises a shape memory alloy.

117. (New) The device of claim 103 further comprising:

a tubular inner base graft formed of expanded, sintered PTFE, wherein said tubular inner base graft is deployed within the hollow bore of the stent such that the outer surface of the tubular inner base graft is in contact with the inner surface of the stent.

118. (New) The device of claim 117 further comprising:

PTFE particles deposited between the tubular inner base graft and the tubular outer layer.

119. (New) The device of claim 118, wherein a bond is formed between the tubular inner base graft and the tubular outer layer by applying heat to an area defined by one of said lateral openings.